

**Computer Science [Honours]
[CBCS]**

B.Sc. Fifth Semester End Examination-2023

(Regular & Supplementary Paper)

PAPER-DSE1T

Microprocessor

Full Marks: 40

Time: 02 Hrs

The figures in the right hand margin indicate marks

Candidates are required to give their answers in their own words as far as practicable

Illustrate the answers wherever necessary

Group A

- 1) Answer any FIVE questions of the following: **5x2= 10**
- a) What is the role of IO/\bar{M} pin of 8085?
 - b) What is the number of T-states required to execute MVI A.00_H instruction?
 - c) Which I/O mode of 8255 does support simple I/O?
 - d) What do you mean by fold back memory space?
 - e) Does opcodefetch machine cycle always require 4 T-states for every 8085 instruction?
 - f) Why INTR is called non-vectored interrupt?
 - g) What does the instruction DAD D do?
 - h) What is the interrupt service routine address of RST 6.5?

(2)

Group B

Answer any FOUR questions of the following: 4x5 = 20

- 2) Write a short note on maskable interrupts of 8085.
- 3) Write an 8085 ALP to set all the flags.
- 4) How many I/O ports are there in 8255? Write a short note on BSR mode of 8255.
- 5) Consider the following 8085 code segment. Determine total time required by this code. Consider that 8085 clock frequency is 4 MHz.
MVI A, 55H
XRA
ADI 66H
RAL
- 6) Describe the function of SIM instruction.
- 7) Assume that all flags are set initially, Now what will be status of flags after execution of each of the following instruction?
SUB A
DCR A
LXI H, FF88H
ADD H
CMC
- 8) Draw the timing diagram of memory read cycle.

(3)

Group C

Answer any ONE question of the following: 1x10 = 10

- 9) a) write an 8085 ALP to count number of 1's present in B register. 5
b) Design an interfacing circuit to interface 4KB memory with 8085. 5
 - 10) a) Explain the role of 8255 control word. Show the content of 8255 control word that configures port A and port C in mode-0 and port B in mode 1. 3+3
b) Write an 8085 subroutine for 100 microsecond delay. Consider that a deviation of 10 ms is tolerable. 4
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